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## In the Claims:

- (Currently Amended) A control system for an automotive vehicle having a steering actuator comprising:
- a lateral dynamic sensor generating a lateral dynamic signal corresponding to a condition of the vehicle;
  - a steering wheel angle sensor generating a steering wheel angle signal;
  - a road wheel steer angle sensor generating a road wheel angle signal;
- a yaw rate sensor generating an actual yaw rate corresponding to the yaw rate of the vehicle; and
- a controller coupled to the steering actuator, the lateral dynamic sensor and the steering wheel angle sensor, said controller determining a desired yaw rate in response to the steering wheel angle signal, determining a corrected steering wheel input as a function of the desired yaw rate, the actual yaw rate, the condition and the road wheel angle signal [[sensor]], determining a modified steering wheel input as a function of the desired yaw rate, and controlling the steering actuator in response to the corrected steering wheel input and, the modified steering wheel input.
- 2. (Original) A system as recited in claim 1 wherein said steering actuator comprises a front right wheel actuator and a front left wheel actuator.
- 3. (Original) A system as recited in claim 2 wherein said front right wheel steering actuator and said front left steering actuator are independently controllable.
- 4. (Previously Presented) A system as recited in claim 3 wherein said controller generates a front right control signal and a front left control signal in response to the corrected steering wheel input and the modified steering wheel input.
- 5. (Previously Presented) A system as recited in claim 1 wherein the lateral dynamic sensor comprises a lateral acceleration sensor generating a lateral acceleration signal, said system further comprising a speed sensor generating a vehicle speed signal, said controller determining the corrected steering wheel input as a function of the desired yaw rate, the vehicle condition, the lateral acceleration signal and the vehicle speed signal.

- 6. (Original) A system as recited in claim 1 wherein said steering actuator comprises a rear steering actuator and a front steering actuator.
- 7. (Previously Presented) A system as recited in claim 1 wherein said controller determines a rear steering control signal in response to the corrected steering wheel input and the modified steering wheel input.
- 8. (Previously Presented) A method of controlling a vehicle having a steering actuator comprising:

measuring a steering wheel angle from a steering wheel angle sensor;
measuring a steering actuator position from a road wheel position sensor;
measuring an actual yaw rate;
determining a desired yaw rate in response to the steering wheel angle;
determining a modified steering wheel input in response to the desired yaw rate;
measuring a vehicle lateral dynamic condition from a condition sensor;
determining a corrected steering wheel input as a function of the desired yaw

rate, the actual yaw rate, the lateral dynamic condition and the steering actuator position; and controlling the steering actuator in response to the corrected steering wheel input and the modified steering wheel input.

- 9. (Previously Presented) A method as recited in claim 8 further comprising generating a lateral acceleration signal from the condition sensor, generating a vehicle speed signal from a speed sensor, wherein determining a corrected steering wheel input comprises determining a corrected steering input as a function of the desired yaw rate, the actual yaw rate, the lateral acceleration signal, and the vehicle speed signal.
- 10. (Previously Presented) A method as recited in claim 8 wherein controlling the steering actuator comprises controlling a front steering actuator in response to the corrected steering wheel input, and the modified steering wheel input.
- 11. (Previously Presented) A method as recited in claim 8 wherein controlling the steering actuator comprises controlling a rear steering actuator in response to the corrected steering wheel input, and the modified steering wheel input.

- 12. (Previously Presented) A method as recited in claim 8 wherein controlling the steering actuator comprises controlling a front right steering actuator in response to the corrected steering wheel input, and the modified steering wheel input.
- 13. (Previously Presented) A method as recited in claim 8 wherein controlling the steering actuator comprises controlling a front left steering actuator in response to the corrected steering wheel input, and the modified steering wheel input.
- 14. (Currently Amended) A method of controlling a vehicle having a steering actuator comprising:

measuring a steering wheel angle from a steering wheel angle sensor; determining a desired yaw rate in response to the steering wheel angle; feeding forward the desired vaw rate to form a feed forward desired vaw rate; determining a modified steering wheel input in response to the desired yaw rate; measuring a vehicle yaw rate from a yaw rate sensor;

determining a yaw rate error as a function of the <u>feed forward</u> desired yaw rate and the vehicle yaw rate;

determining a corrected steering wheel input in response to the yaw rate error;

determining a steering actuator input as a function of the corrected steering wheel input and the modified steering wheel input; and

controlling the steering actuator in response to the steering actuator input.

- 15. (Currently Amended) A method as recited in claim 14 further comprising generating a lateral acceleration signal from a lateral acceleration sensor, generating a vehicle speed signal from a speed sensor, wherein determining a corrected steering wheel input comprises determining a corrected steering input as a function of the desired yaw rate and the vehicle yaw rate, the lateral acceleration signal and the vehicle speed signal-and other inputs.
- 16. (Previously Presented) A method as recited in claim 14 wherein controlling the steering actuator comprises controlling a front steering actuator in response to the corrected steering wheel input and the modified steering wheel input.

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- 17. (Previously Presented) A method as recited in claim 14 wherein controlling the steering actuator comprises controlling a rear steering actuator in response to the corrected steer angle input and the modified steering wheel input.
- 18. (Previously Presented) A method as recited in claim 14 wherein controlling the steering actuator comprises controlling a front right steering actuator in response to the corrected steering wheel input and the modified steering wheel input.
- 19. (Previously Presented) A method as recited in claim 14 wherein controlling the steering actuator comprises controlling a front left steering actuator in response to the corrected steering wheel input and the modified steering wheel input.
- 20. (Previously Presented) A method as recited in claim 14 wherein controlling the steering actuator comprises controlling a rear left steering actuator in response to the corrected steering wheel input and the modified steering wheel input.
- 21. (Previously Presented) A method as recited in claim 14 wherein controlling the steering actuator comprises controlling a rear right steering actuator in response to the corrected steering wheel input and the modified steering wheel input.
- 22. (Currently Amended) An automotive vehicle having a steering road wheel actuator comprises:
- a yaw rate sensor generating a yaw rate signal corresponding to the actual yaw rate of the vehicle;
  - a steering wheel angle sensor generating a steering wheel angle signal;
- a feedback controller and a feed forward controller coupled to the steering road wheel actuator using inputs from the yaw rate sensor and the steering wheel angle sensor, the feed forward controller calculates a desired yaw rate in response to the steering wheel angle, the feedback controller compares the actual yaw rate and a desired yaw rate to form a yaw rate error, determines a corrected steering wheel input as a function of the yaw rate error, [[and]] the feedback controller controls the road wheel steering actuator in response to the corrected steering wheel input, and the modified steering wheel input determined as a function of the desired yaw rate to provide a steering angle that will result in a desired vehicle dynamic response.

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